

REMARKS

1. In the above-captioned Final Office Action, the Examiner allowed claims 12, 15-17, 19, and 20. Claims 3 and 18 were rejected under 35 U.S.C. §112, first paragraph. Claims 3 and 18 were rejected under 35 U.S.C. §112, second paragraph. Claims 1-4, 7, and 8, were rejected under 35 U.S.C. §102(e) in view of Rueger (U.S. Patent No. 6,712,047). Claim 9 was rejected under 35 U.S.C. §103(a) in view of Rueger. Claims 5 and 6 were rejected under 35 U.S.C. §103(a) given Rueger in view of Bunch, Jr. et al. (U.S. Patent No. 5,000,043). These rejections are traversed and reconsideration is hereby respectfully requested.

2. Claims 3 and 18 were rejected under 35 U.S.C. §112, first paragraph. Particularly, the Examiner states that the disclosure fails to set forth how combustion in the chamber takes place.

It is well known in the art of internal combustion engines how combustion takes place in a combustion cylinder of an engine. Claim 3 as currently stands claims, at least in part, a *fuel injector for an internal combustion engine having an orifice disposed in a nozzle and a pressure sensor disposed adjacent to the orifice, that protrudes into a combustion chamber*. Claim 18 claims a step of combusting fuel in a chamber of an engine.

One with ordinary skill in the art would know how to use a fuel injector for an internal combustion engine in a combustion chamber of an internal combustion engine. Combustion chambers having injectors associated therewith are well known in the art. For example, one reference that illustrates that fuel injectors are known to be associated with combustion chambers of internal combustion engines is U.S. Patent No. 6,557,520 by Roberts, published on May 6, 2003, which describes a combustion chamber in a reciprocating engine having an injector that is arranged to inject fuel therein. Combustion occurrence in a combustion chamber of an engine is also known.

Further examples of what is known in the art are shown in the following issued U.S. Patents: Patent No. 6,990,857 titled "Fuel injector timing tool", Patent No. 6,755,077 titled "Diagnostic system for identifying fuel injector failure in a fuel cell system", Patent No. 6,732,577 titled "Method of determining fuel injector performance in-chassis and electronic control module using the same", Patent No. 6,668,633 titled "Electronic fuel injector tester", Patent No. 6,598,471 titled "Method of selecting optimal engine characteristics for minimum injector deposits", and/or Patent No. 6,516,658 titled "Identification of diesel engine injector characteristics". Thus, it is well known to one skilled in the art how combustion in the chamber takes

place, such as set forth in claims 3 and 18, and the specification and claims are in compliance with 35 U.S.C. §112, first paragraph. Because the Applicant has shown compliance with 35 U.S.C. §112, first paragraph, the Examiner is invited to provide an affidavit to the contrary in support of his position.

3. Claims 3 and 18 were rejected under 35 U.S.C. §112, second paragraph. The Examiner states that, pertaining to claim 3, elimination of the drain lines (221) leaves no way to supply the flow meter (223).

Applicant respectfully reasserts the argument of point (2) above, that use of a fuel injector in an internal combustion engine is well known. Further, Applicant respectfully points out that the combination of claim 3 does not include either the drain lines or the flow-meter. The combination of claim 3 includes, in pertinent part, a fuel injector having a pressure sensor, and that the fuel injector protrudes into a chamber. Claim 3 does not include any drain lines or any flow metering devices. Moreover, Applicant respectfully disagrees with the Examiner's statement that the flow meter is critical to the Applicant's invention. Applicant has never stated that the flow meter is critical to the invention, as is further evidenced by its placement in a dependent claim.

Hence, if the drain lines were eliminated, as argued by the Examiner, or in the case of claim 3 not included at all, the invention would not be defeated. The Examiner further argues that the Applicant lacks the teaching necessary to modify the drain lines and flow meter if the chamber is a combustion chamber as claimed in claim 3. Applicant would like to reaffirm that the combination of claim 3 does not contain any drain lines or flow meter, so any teachings as to modification of the claimed subject matter is not required.

Pertaining to claim 18, the Examiner states that the claim contradicts the Applicant's disclosure in that the disclosure never sets forth that the fluid inside the chamber is combusted. As Applicant states above, combustion of fuel in a combustion cylinder of an internal combustion engine is a process that is well known in the art.

Thus, claims 3 and 18 comply with 35 U.S.C. §112, second paragraph.

4. Claims 1-4, 7, and 8, were rejected under 35 U.S.C. §102(e) in view of Rueger.

As Applicant stated in response to the previous Office Action, Rueger teaches measurement of the supply pressure of fuel to an injector, at a location upstream of the injector's nozzle, and not pressure at the nozzle of an injector of fuel being injected from the injector. Hence, Rueger does not teach having a pressure sensor

that directly measures fluid pressure in the fluid cavity of a nozzle as stated in claim 1 as amended above.

Therefore, the applicant respectfully submits that independent claim 1, along with claims 2-4, 7, and 8 that depend therefrom are allowable over Rueger and may be passed to allowance.

Furthermore, claims 2-4, 7, 8, 16, and 18, are dependent upon an independent claim that is shown to be allowable. For all these reasons, the dependent claims are themselves allowable.

5. Claim 9 was rejected under 35 U.S.C. §103(a) in view of Rueger. Claim 9 depends from claim 1 which has been shown to be allowable over the Rueger reference and is, thus, itself allowable.

6. Claims 5 and 6 were rejected under 35 U.S.C. §103(a) given Rueger in view of Bunch, Jr. et al. Even if one were to combine the pressure control valve or the flow metering unit taught by Bunch with the teachings of Rueger, the resulting combination would fail to yield the invention as claimed because Rueger does not teach the unique subject matter of independent claim 1 as shown above.

Moreover, claims 5 and 6 are dependent upon an independent claim that is shown to be allowable. For all these reasons, these dependent claims are themselves allowable.

7. This amendment/response is necessary because it places the Application in condition for allowance, and was not previously entered because the Examiner first brought the grounds of rejection in the Final Office Action.

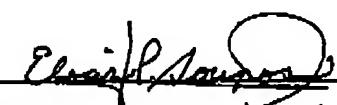
8. The examiner points out that the rejection of claims 3 and 18 under 35 U.S.C. §112, first paragraph, was set forth in the previous office action (Jan. 12, 2006) but was not addressed by the Applicant. Applicant's previous response was a bona fide attempt to advance the application proceeding to a final action, and the response to said rejection was omitted in error. A fully responsive traversal of the rejection of claims 3 and 18 under 35 U.S.C. §112, first paragraph, is set forth herein.

9. The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication may advance the prosecution of the present application. Notice of allowance of claims 1-9, 13, and 18 is hereby respectfully requested.

Respectfully submitted,

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